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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/519,554

12/28/2004

Koudai Yoshizawa

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EXAMINER

PARSONS, THOMAS H

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<p align="center"><b>Advisory Action</b> <b>Before the Filing of an Appeal Brief</b></p>	<p><b>Application No.</b> 10/519,554</p>	<p><b>Applicant(s)</b> YOSHIZAWA ET AL.</p>	
	<p><b>Examiner</b> THOMAS H. PARSONS</p>	<p><b>Art Unit</b> 1795</p>	

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 06 November 2008 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 1-21.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_.  
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_.  
13. ☒ Other: See Continuation Sheet.

/PATRICK RYAN/  
Supervisory Patent Examiner, Art Unit 1795

Continuation of 13. Other: On page 8, lines 15-16 the Applicants argue " Fujii et al. fail to disclose the feature that the first gas passage is formed on a surface of the bipolar plate and the second gas passage is formed on another surface of the bipolar plate. On page 9, lines 3-9, the Applicants argue that there is no suggestion in Fujii et al., Nelson et al., and Kaufman et al. to modify the fuel cell of Fujii et al. to arrive at the invention of claim 1.

In response, Fuji et al. in Figures 1-4 disclose a separator plate (e.g. a monopolar plate) comprising a first gas passage (211A) formed on a surface on the side of the membrane electrode assembly, where one end is connected to a gas inlet (12C) and the other end is connected to a return part (201), a second gas passage (211B) formed parallel to the first gas passage (211A) on another surface on the opposite side of the first gas, whereof one end is connected to the first gas passage (211A) via the return part (201) and the other end is connected to the gas outlet (13C).

Fujii et al. do not disclose a bipolar plate. Nelson et al. disclose a bipolar plate. In particular, Nelson et al. on col. 4: 46-47, disclose "As is known in the art, fluid flow plates may include bipolar and monopolar plates". See also col. 3: 35-40. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Fujii et al. by incorporating bipolar plates as taught by Nelson et al. because Nelson et al. teach a bipolar plate that would have increased the hydration distribution along the membrane thereby improving the overall performance of the fuel cell.

The Fujii et al. combination discloses that the bipolar plate is made of a carbon material (paragraph [0150]) but is silent as to a porous bipolar plate. Kaufman et al. in Figures 3, 5 and 6 disclose bipolar plates that are made of a porous carbon material. See abstract, col. 2: 3-26, col. 3: 67-col. 4: 15, and, col. 6: 1-col. 8: 59. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the bipolar plates of the Fujii et al. combination by incorporating the porous carbon plates of Kaufman et al. because Kaufman et al. teach porous carbon bipolar plates that would have provided a more uniform gas distribution over the face of the respective anode and cathode thereby improving the overall performance of the fuel cell.

On page 12, the Applicants argue that there is no suggestion in Fujii et al. and Nelson et al. to modify the fuel cell of Fujii et al. to arrive at the invention of claim 18.

In response, Fuji et al. in Figures 1-4 disclose a separator plate (e.g. a monopolar plate) comprising a first gas passage (211A) formed on a surface on the side of the membrane electrode assembly, where one end is connected to a gas inlet (12C) and the other end is connected to a return part (201), and a second gas passage (211B) formed parallel to the first gas passage (211A) on another surface on the opposite side of the first gas, whereof one end is connected to the first gas passage (211A) via the return part (201) and the other end is connected to the gas outlet (13C).

Fujii et al. do not disclose a bipolar plate comprising a gas diffusion layer provided between the membrane electrode assembly and the bipolar electrode. Nelson et al. disclose a bipolar plate comprising a gas diffusion layer provided between a membrane electrode assembly and bipolar electrode (col. 1: 38-47). Further, Nelson et al. on col. 4: 46-47, disclose "As is known in the art, fluid flow plates may include bipolar and monopolar plates". See also col. 3: 35-40. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Fujii et al. by incorporating bipolar plates as taught by Nelson et al. because Nelson et al. teach a bipolar plate that would have increased the hydration distribution along the membrane thereby improving the overall performance of the fuel cell.

On page 11, lines 11-14, the Applicants argue, " It is well settled that it is not sufficient for a prior art controller to be merely capable of performing certain operation in order to assert obviousness, but there must be a suggestion to modify the controller to perform the claimed operation.

In response, the claim requires a controller in communication with a cooling mechanism. Takahashi et al. in Figures 1, 4 and 6 disclose a controller in communication with the cooling mechanism. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the cooling mechanism of Fujii et al. combination by incorporating the controller of Takahashi et al. because Takahashi et al. teach a controller that would have provided efficient water flow to the cooling water passage during startup from a low temperature, maintained water balance and resolved problems associated with clogging thereby improving the overall efficiency and performance of the fuel cell stack. The recitation, "so that the temperature of the gas discharged from the gas outlet is higher, the larger the gas pressure or gas usage rate of the fuel cell is" has been considered, and construed as a functional limitation that adds no additional structural limitation to the controller. However, because the controller of Takahashi et al. is structurally similar to that instantly claimed, it appears capable of performing the claimed function. Since, Takahashi et al. teach the same controller as that claimed, one of ordinary skill in the art would have expected that the apparatus of Takahashi et al. would have been capable of regulating cooling performance so that the temperature of the gas discharged from the gas outlet is higher, absent a showing to the contrary.